

What is claimed is:

1. A solvent-free curable adhesive composition,
which comprises (A) a polyol component and (B) a
5 polyisocyanate component, wherein at least one component
of the components (A) and (B) comprises at least one polyol
component having crystallinity at room temperature and
selected from the group consisting of a polyester polyol,
a polyether polyol, a polycarbonate polyol and a
10 polyurethane polyol, and an amount of the crystalline
polyol component is 3 to 50 % by weight relative to the
total weight of the components (A) and (B).

2. A composition according to claim 1, which has
an initial viscosity of 100 to 1,500 mPa·s at 70°C
15 immediately after the components (A) and (B) are mixed,
and an increasing ratio of the viscosity after the mixture
is stood at 70°C for 10 minutes to the initial viscosity
of 120 % or less.

3. A composition according to claim 1, which has
20 an initial viscosity of 100 to 1,000 mPa·s at 70°C
immediately after the components (A) and (B) are mixed,
and an increasing ratio of the viscosity after the mixture
is stood at 70°C for 10 minutes to the initial viscosity
of 120 % or less.

25 4. A composition according to claim 1, wherein the
concentration of aromatic rings in the total weight of the
components (A) and (B) is 0.2 to 2.8 mmol/g.

5. A composition according to claim 1, wherein the component (A) at least comprises polyester polyol obtainable from at least one polybasic acid selected from the group consisting of an aromatic dicarboxylic acid and an aliphatic dicarboxylic acid, and at least one polyol component selected from the group consisting of an alkanepolyol and a polyether polyol.

6. A composition according to claim 5, wherein the component (A) further comprises at least one polyol component selected from the group consisting of an alkanepolyol and a polyether polyol.

7. A composition according to claim 1, wherein the component (B) has a plurality of terminal isocyanate groups and is at least one member selected from the group consisting of the followings (B1) and (B2):

(B1) a reaction product of a polyisocyanate and at least one polyol component selected from the group consisting of an alkanepolyol, a polyester polyol, a polyether polyol, a polycarbonate polyol and a polyurethane polyol; and

(B2) a polyisocyanate derivative.

8. A composition according to claim 7, wherein the polyisocyanate of the component (B1) is at least one member selected from the group consisting of an aliphatic diisocyanate and a biphenyl-series diisocyanate.

9. A composition according to claim 7, wherein the polyisocyanate of the component (B1) is at least one member

selected from the group consisting of a xylylene diisocyanate and a diphenylmethane diisocyanate.

10. A composition according to claim 7, wherein the component (B2) is at least one member selected from the group consisting of a polymeric or oligomeric aliphatic diisocyanate, a modified aliphatic diisocyanate, and a modified polymeric or oligomeric aliphatic diisocyanate.

11. A composition according to claim 7, wherein the component (B2) is at least one member selected from the group consisting of a polymeric or oligomeric hexamethylene diisocyanate, a modified hexamethylene diisocyanate, and a modified polymeric or oligomeric hexamethylene diisocyanate.

12. A composition according to claim 1, wherein the crystalline polyol component comprises at least one member selected from the followings (i) and (ii):

(i) a polyester polyol having a number average molecular weight of 400 to 5,000, and obtainable from at least one member selected from the group consisting of an aromatic dicarboxylic acid and an aliphatic dicarboxylic acid and at least one polyol component selected from the group consisting of an alkanepolyol and a polyether polyol; and

(ii) a polyether polyol having a number average molecular weight of 400 to 5,000.

13. A composition according to claim 1, which further comprises at least one member selected from an

antifoaming agent and a foam stabilizer.

14. A composition according to claim 1, which further comprises an adhesion improving agent.

15. A composition according to claim 14, wherein the adhesion improving agent is at least one member selected from the group consisting of a coupling agent, an oxygen acid of phosphorus, and an epoxy compound or resin.

16. A solvent-free two-component curable adhesive composition, which comprises:

10 (A) a polyol component which comprises a crystalline polyester diol having a number average molecular weight of 400 to 4,000 and obtainable from a polybasic acid comprising an aliphatic dicarboxylic acid and at least one diol selected from the group consisting of an alkanediol and a polyether diol; and

(B) a polyisocyanate component,

wherein the composition contains the crystalline polyester diol in the proportion of 3 to 45 % by weight relative to the total weight of the components (A) and (B),
20 and has an initial viscosity of 200 to 1,500 mPa · s at 70°C immediately after the components (A) and (B) are mixed, an increasing ratio of the viscosity after the mixture is stood at 70°C for 10 minutes to the initial viscosity of 110 % or less, and the concentration of aromatic rings in
25 the total weight of the components (A) and (B) is 0.4 to 2.6 mmol/g.

17. A composition according to claim 1, which is

used for laminating at 100 m/minute or more of a lamination speed.

18. A process for laminating a plurality of films by using a composition recited in claim 1.

5 19. A process according to claim 18, which comprises laminating a plurality of films comprising at least polyalkylene arylate-series resin film.

10 20. A process according to claim 19, which comprises laminating at 200 m/minute or more of a lamination speed.

 21. Use of a composition recited in claim 1 for producing a laminated film.